

**REMARKS/ARGUMENTS**

Claims 1-20 are pending. Claims 1-4, 6, 7, and 9-15 have been amended. New claims 16-20 have been added. Support for the amendment can be found, for example, in the present application at page 15, lines 2-20. The Abstract has also been amended. No new matter has been introduced. Applicants believe the claims comply with 35 U.S.C. § 112.

**Section 102 Rejections**

Claims 1-4, 6, 9-11, and 15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hubis et al. (US 6,343,324).

Applicants respectfully submit that independent claims 1, 2, 9, 11, and 15 are novel and patentable over Hubis et al. because, for instance, Hubis et al. does not teach or suggest specifying a connected state value concerning the connection of the computer in relation to each logical volume included in the disk device or each logical area in each logical volume included in the disk device, the connected state value ranging between a minimum value and a maximum value, the maximum value signifying that the computer is fully connected, the minimum value signifying that the computer is fully disconnected, an intermediate value between the maximum value and the minimum value signifying a conditionally connected state for the computer.

The Examiner states that Hubis et al. discloses a connected state value in the form of port mapping table entries 191 at column 10, line 42. As discussed at column 10, lines 51-57: "Each Port Mapping Table entry 191 includes an 8-bit (1-byte) Target ID 192 containing the loop ID of the Logical Volume on this port, an 8-bit (1-byte) LUN 193 containing the LUN number for the logical volume on this port to which the command is directed (also referred to as the target loop ID), a 32-byte Volume Permission Table 194, and a Flag Bit 195 field (8-bits) storing various flag indicators." There is no disclosure or suggestion that the connected state value ranges between a minimum value and a maximum value.

For at least the foregoing reasons, independent claims 1, 2, 9, 11, and 15, and dependent claims 3, 4, 6, and 10, are novel and patentable over Hubis et al.

Section 103 Rejections

Claims 5, 7, and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hubis et al. in view of King et al. The Examiner recognizes that Hubis et al. does not disclose the additional features recited in dependent claims 5, 7, and 12, and cites King et al. for allegedly providing the missing teaching.

Even assuming that King et al. discloses the additional features recited in dependent claims 5, 7, and 12, those claims are still patentable at least due to their dependency from allowable claims 1 and 9, since King et al. does not cure the deficiencies of Hubis et al. King et al. also fails to teach or suggest specifying a connected state value concerning the connection of the computer in relation to each logical volume included in the disk device or each logical area in each logical volume included in the disk device, the connected state value ranging between a minimum value and a maximum value, the maximum value signifying that the computer is fully connected, the minimum value signifying that the computer is fully disconnected, an intermediate value between the maximum value and the minimum value signifying a conditionally connected state for the computer.

For at least the foregoing reasons, claims 5, 7, and 12 are patentable over Hubis et al. and King et al.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hubis et al. in view of Tang et al. The Examiner recognizes that Hubis et al. does not disclose the additional features recited in dependent claim 13, and cites Tang et al. for allegedly providing the missing teaching.

Even assuming that Tang et al. discloses the additional features recited in dependent claim 13, claim 13 is still patentable at least due to its dependency from allowable claim 11, since Tang et al. does not cure the deficiencies of Hubis et al. Tang et al. also fails to teach or suggest defining the relationship of logical connection includes specifying a connected state value concerning the connection of the computer in relation to each logical volume included in the disk device or each logical area in each logical volume included in the disk device, the connected state value ranging between a minimum value and a maximum value, the maximum value signifying that the computer is fully connected, the minimum

value signifying that the computer is fully disconnected, an intermediate value between the maximum value and the minimum value signifying a conditionally connected state for the computer.

For at least the foregoing reasons, claim 13 is patentable over Hubis et al. and Tang et al.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hubis et al. in view of King et al. and Tang et al. The Examiner recognizes that Hubis et al. does not disclose the additional features recited in dependent claim 8, and cites King et al. and Tang et al. for allegedly providing the missing teaching.

Even assuming that King et al. and Tang et al. disclose the additional features recited in dependent claim 8, claim 8 is still patentable at least due to its dependency from allowable claim 1, since King et al. and Tang et al. do not cure the deficiencies of Hubis et al. King et al. and Tang et al. also fail to teach or suggest specifying a connected state value concerning the connection of the computer in relation to each logical volume included in the disk device or each logical area in each logical volume included in the disk device, the connected state value ranging between a minimum value and a maximum value, the maximum value signifying that the computer is fully connected, the minimum value signifying that the computer is fully disconnected, an intermediate value between the maximum value and the minimum value signifying a conditionally connected state for the computer.

For at least the foregoing reasons, claim 8 is patentable over Hubis et al., King et al., and Tang et al.

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hubis et al. in view of Reynolds et al. The Examiner recognizes that Hubis et al. does not disclose the additional features recited in dependent claim 14, and cites Reynolds et al. for allegedly providing the missing teaching.

Even assuming that Reynolds et al. discloses the additional features recited in dependent claim 14, claim 14 is still patentable at least due to its dependency from allowable claim 9, since Reynolds et al. does not cure the deficiencies of Hubis et al. Reynolds et al.

also fails to teach or suggest defining the relationship of logical connection includes specifying a connected state value concerning the connection of the computer in relation to each logical volume included in the disk device or each logical area in each logical volume included in the disk device, the connected state value ranging between a minimum value and a maximum value, the maximum value signifying that the computer is fully connected, the minimum value signifying that the computer is fully disconnected, an intermediate value between the maximum value and the minimum value signifying a conditionally connected state for the computer.

For at least the foregoing reasons, claim 14 is patentable over Hubis et al. and Reynolds et al.

New Claims 16-20

New claims 16-20 depend from independent claims 1, 2, 9, 11, and 15, respectively, and are submitted to be patentable as being directed to additional features of the invention as well as by being dependent from allowable independent claims. Claims 16-20 each recite, in the case where the connected state value is an intermediate value: if an access key is not appended to an input/output request issued by the computer, the computer is treated as fully disconnected; if an access key is appended to an input/output request issued by the computer and if the access key is larger than the connected state value, input/output for the input/output request is disabled; and if an access key is appended to an input/output request issued by the computer and if the access key is equal to or smaller than the connected state value, input/output for the input/output request is enabled. This is clearly absent from the cited references.

Certified Copy of Priority Document

A certified copy of the priority document was filed with the application on March 30, 2004. Attached is a copy of the front page of the priority document and a copy of the returned postcard stamped by the USPTO acknowledging receipt of the same.

Appl. No.: 10/814,475  
Amdt. dated: February 6, 2006  
Reply to Office Action of: December 19, 2005

PATENT

**CONCLUSION**

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

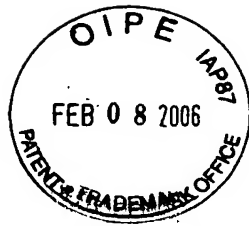
If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



Chun-Pok Leung  
Reg. No. 41,405

TOWNSEND and TOWNSEND and CREW LLP  
Two Embarcadero Center, Eighth Floor  
San Francisco, California 94111-3834  
Tel: 650-326-2400  
Fax: 415-576-0300  
Attachments  
RL:rl  
60684652 v1



**COPY**

**PATENT APPLICATION  
FILING ACKNOWLEDGMENT**

60178417 v1

<b>Mailed:</b> March 30, 2004	<b>Express Mail</b>	<b>EV433231317US</b>
<b>File No.:</b> 16869N-111600US		<b>RCC:car</b>
<b>Inventor(s)</b> SUZUKI, <i>et al.</i>		
<b>Title:</b> A System for Controlling Connection of Disk Devices		

- Utility Patent Application Transmittal
- Fee Transmittal (x2)
- Application Data Sheet
- Patent specification (37 pages)
- Formal drawings (14 sheets)
- Certified copy of JP2004-021181
- Information Disclosure Statement; Form PTO/SB/08A with 1 reference(s)

22335 U.S. PTO  
10/814475



Please stamp the date of receipt of the enclosed documents and return this card to addressee.



**COPY**

16869 N-11160005

日 本 国 特 許 庁  
JAPAN PATENT OFFICE

別紙添付の書類に記載されている事項は下記の出願書類に記載されて  
る事項と同一であることを証明する。

This is to certify that the annexed is a true copy of the following application as filed  
in this Office.

出 願 年 月 日  
Date of Application: 2004年 1月29日

出 願 番 号  
Application Number: 特願2004-021181  
[T. 10/C]: [JP2004-021181]

出 願 人  
Applicant(s): 株式会社日立製作所

2004年 3月10日

特許庁長官  
Commissioner,  
Japan Patent Office

今 井 康 夫

